AT&T laser modules enable fibre links

In confirmation of the key role of III-V devices in high performance communication networks, such as fibre-to-the-home and fibre-to-the-loop applications, a trio of AT&T Microelectronics modules include MQW InGaAsP 1.3 μm Fabry Perot laser and InGaAs PIN diodes.

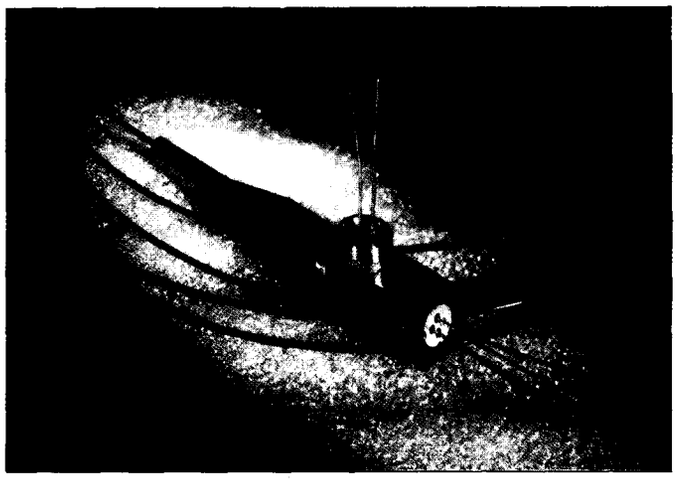
Shown in the heading photo is the 622 Mbit/s 1420C/D bidirectional laser module which allows full- or half-duplex communication links to be implemented across a *single* fibre.

The second is a type-246-LD 1.5 μm low dispersion penalty module which allows standard fibre to be used in long-haul links without signal regeneration. In test links, the module achieved a penalty of less than 1.5 dB over 210 km. AT&T says that thanks to processing and manufacturing enhancements, oscillations in laser output are dramatically reduced, thereby offering exceptional performance in extreme long-haul applications.

Every kerb should have one is AT&T's humorous description of the third module, the 270-type ASTROTEC 1.3 μm InGaAsP laser module, as shown below. A laser capsule is coupled into a single-mode fibre pigtail providing highly integrated powerful laser module for comms networks including fibre-in-the-loop architectures and fibre-to-the-kerb installations such as digital telephony, analogue TV and narrow-band video. For example, in a video-on-demand system, where the user must communicate with the service provider to order programmes, the 270 will provide a high power, low cost solution for the uplink.

The MQW multi longitudinal mode laser couples 1 mW CW into the pigtail while the PIN PD backface monitor is integrated within the epoxy-free, hermetically sealed laser capsule.

■ *Contact AT&T dataline tel/fax: [44] (0)1734 324299 / 328148.*



The 1420 laser module from AT&T Microelectronics is bidirectional, reducing the overall number of fibres needed to implement fibre-in-the-loop, fibre-to-the-kerb and fibre-to-the-home.

The type-270 MQW laser module, introduced by AT&T Microelectronics to address communications applications, especially in fibre-to-the-loop and fibre-to-the-kerb architectures.

Sumitomo modules for optical CATV

In Japan, Sumitomo Electric has developed a high-output, low-distortion laser module and a highly sensitive, low-distortion pin-photodiode (PD) module, both for analog transmission in a wide-area optical CATV system that operates on 30 km length optical fibres without relaying.

The optical CATV system, which transmits video signals through fibre optics, is a key technology that supports the multimedia era.

The newly developed 1.3 μm analog DFB laser module components are manufactured with an original epitaxial growth technology accumulated over the long history of digital pin-PD module manufacturing and employ a high-precision optical alignment and welding technology. As a result, it was able to obtain as high an output as 11 mW with low distortion (high fidelity electronic-to-optical signal conversion).

With these newly developed modules, long-distance and multi-channel transmission and reception of video signals have now become available, says Sumitomo.

Spire opto update photistors

Spire Corp., Bedford, MA, USA, has a contract from the U.S. Army Missile Command for continued development of linear, sensitive, optically-triggered electronic switches. These devices will be used for applications such as antenna switching, antenna reconfiguration, microwave control, high voltage switching, and opto-isolation.

Spire is collaborating with California Microwave, Inc., Woodland Hills, CA, to develop practical photoconductive switches, trademarked as "Photistors" by California Microwave, for use in a synaptic antenna.

The masks are photoconductors of pure long-lifetime silicon material requiring no DC voltage bias across the Photistor to initiate switching. California Microwave will test the Photistors developed by Spire in a multiband 80 to 250 MHz monopole antenna system to determine device feasibility.